Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1.   (CURRENTLY AMENDED) A hands-free towel dispenser comprising:

        a housing with a roll of towels inside an interior;

        a sensor for detecting the presence of an object and generating a signal;

        a motor driving a dispensing means for dispensing a desired length of towel;

        a control circuit for receiving the signal from the sensing means and controlling supply of power to the motor driving the dispensing mechanism;

        a power source supplying power to the motor and the control circuit;

        the control circuit adapted to sample back EMF generated by the motor while the dispensing means is dispensing the towel and to determine based on the sampled back EMF a calculated run time for the operation of the motor to dispense the desired length of towel, wherein the control circuit stops the supply of power to the motor momentarily and allows the motor to coast while the dispensing means is dispensing the towel and samples the back EMF during the coast period.

2.   (CANCELLED)

3.   (CURRENTLY AMENDED) The hands-free towel dispenser of claim 1 [[2]], wherein the control circuit stops the supply of power to the motor for approximately ten milliseconds and allows the motor to coast while the dispensing means is dispensing the towel and samples the back EMF during the coast period.

4.   (CURRENTLY AMENDED) The hands-free towel dispenser of claim 1 [[2]], wherein prior to supplying power to the motor, the control circuit determines an estimated run time for dispensing the desired length of towel.

5.   (ORIGINAL) The hands-free towel dispenser of claim 4, wherein the control circuit momentarily stops the supply of power to the motor and allows the motor to coast when the motor has reached a steady operating speed.

6.   (ORIGINAL) The hands-free towel dispenser of claim 5, wherein the control circuit momentarily stops the supply of power to the motor when approximately seventy-five percent of the estimated run time has elapsed.

7.   (ORIGINAL) The hands-free towel dispenser of claim 6, wherein the control circuit is adapted to compare the estimated run time with the calculated run time and adjust the length of time that power will be supplied to the motor to dispense the desired length of towel.

8.   (ORIGINAL) The hands-free towel dispenser of claim 4, wherein the control circuit can be configured to dispense a plurality of selectable desired towel lengths.

9.   (ORIGINAL) The hands-free towel dispenser of claim 8, wherein the control circuit includes switch to allow user selection of up to four desired towel lengths.

10.   (ORIGINAL) The hands-free towel dispenser of claim 8, wherein the control circuit includes an estimated run time memory adapted to store a plurality of default estimated run times, with an estimated run time corresponding to each of the plurality of selectable desired towel lengths.

11.   (ORIGINAL) The hands-free towel dispenser of claim 4, wherein the control circuit includes a calculated run time memory for storing previous calculated run times and the estimated run time is determined by averaging the calculated run times within the calculated run time memory.

12.   (ORIGINAL) The hands-free towel dispenser of claim 11, wherein the control circuit includes a pre-set default estimated run time to be used if no previous calculated run times are stored in the calculated run time memory.

13.   (ORIGINAL) The hands-free towel dispenser of claim 11, wherein the calculated run time memory stores up to the three most recent calculated run times.

14.   (ORIGINAL) The hands-free towel dispenser of claim 8, wherein the control circuit includes a calculated run time memory for storing previous calculated run times corresponding to the currently selected desired towel length and the estimated run time is determined by averaging the calculated run times within the calculated run time memory.

15.   (ORIGINAL) The hands-free towel dispenser of claim 14, wherein selecting a different desired towel length from the plurality of desired towel lengths will erase the previous calculated run times stored in the calculated run time memory.

16.   (ORIGINAL) The hands-free towel dispenser of claim 15, wherein the control circuit includes a plurality of pre-set default estimated run times, with a pre-set default estimated run time corresponding to each of the desired towel lengths, the respective default estimated run times to be used if no previous calculated run times are stored in the calculated run time memory.

17.   (ORIGINAL) The hands-free towel dispenser of claim 14, wherein the calculated run time memory stores up to the three most recent calculated run times.

18.   (CURRENTLY AMENDED) A method of dispensing a desired length of towel comprising:

    providing a roll of towels within a housing, a sensor for sensing the presence of an object, a power source and a motor driving a dispensing means;

    the sensor generating a signal when the presence of an object is sensed;

    a control circuit receiving the signal from the sensor and supplying power from the power source to the motor to drive the dispensing means to dispense a desired length of towel from the roll;

the control circuit stopping the supply of power to the motor momentarily and allowing the motor to coast while the dispensing means is dispensing the towel and sampling back EMF during the coast period;

the control circuit determining the speed of operation of the motor driving the dispensing means by using the back EMF signals generated by the motor;

the control circuit calculating a calculated run time the motor should drive the dispensing means to dispense the desired length of towel based on the speed of operation of the motor as determined from the back EMF signals generated by the motor;

the control circuit stopping the supply of power to the motor when the motor has run for the calculated run time.

19.   (CANCELLED)

20.   (CURRENTLY AMENDED) The method of claim 18 [[19]], further comprising the control circuit stopping the supply of power to the motor for approximately ten milliseconds and allowing the motor to coast while the dispensing means is dispensing the towel and sampling the back EMF during the coast period.

21.   (CURRENTLY AMENDED) The method of claim 18 [[19]], further comprising the control circuit determining an estimated run time for dispensing the desired length of towel prior to supplying power to the motor in response to the signal.

22.   (ORIGINAL) The method of claim 21, further comprising the control circuit momentarily stopping the supply of power to the motor, allowing the motor to coast when the motor has reached a steady operating speed, and sampling the back EMF while the motor is coasting.

23.   (ORIGINAL) The method of claim 22, wherein the control circuit momentarily stops the supply of power to the motor when approximately seventy-five percent of the estimated run time has elapsed.

24.   (ORIGINAL) The method of claim 23, further comprising the control circuit comparing the estimated run time with the calculated run time and adjusting the length of time that power will be supplied to the motor to dispense the desired length of towel based on the difference between the estimated and the calculated run times.

25.   (ORIGINAL) The method of claim 21, wherein the control circuit can be configured to dispense a plurality of selectable desired towel lengths.

26.   (ORIGINAL) The method of claim 25, wherein the control circuit includes a switch to allow user selection of up to four desired towel lengths.

27.   (ORIGINAL) The method of claim 25, wherein the control circuit includes an estimated run time memory adapted to store a plurality of default estimated run times, with an estimated run time corresponding to each of the plurality of selectable desired towel lengths.

28.   (ORIGINAL) The method of claim 21, wherein the control circuit includes a calculated run time memory for storing previous calculated run times and the control circuit averaging the calculated run times stored in the calculated run time memory to determine the estimated run time when the signal is received.

29.   (ORIGINAL) The method of claim 28, wherein the control circuit includes a pre-set default estimated run time and the control circuit using the default estimated run time if no previous calculated run times are stored in the calculated run time memory.

30.   (ORIGINAL) The method of claim 28, wherein the calculated run time memory stores up to the three most recent calculated run times.

31.   (ORIGINAL) The method of claim 25, wherein the control circuit includes a calculated run time memory for storing previous calculated run times corresponding to the currently selected desired towel length and the control circuit averaging the calculated run times stored in the calculated run time memory to determine the estimated run time when the signal is received.

32.   (ORIGINAL) The method of claim 31, wherein the control circuit includes a plurality of pre-set default estimated run times, with a pre-set default estimated run time corresponding to each of the desired towel lengths and the control circuit using the default estimated run time corresponding to the currently selected desired towel length if no previous calculated run times are stored in the calculated-run time memory.

33.   (ORIGINAL) The method of claim 31, wherein the calculated run time memory stores up to the three most recent calculated run times.